

Appl. No. 10/771,781
Atty. Docket No. 9507
Amdt. dated August 24, 2005
Reply to Office Action of July 7, 2005
Customer No. 27752

CLAIMS FOR RECONSIDERATION

Listing of Claims:

1. (Original) A method of determining a modulus-of-elasticity-analog value of a moving web material, the method comprising steps of:
 - a) determining a first web-tension-analog value of the moving web material in a first span,
 - b) determining a first web-velocity-analog value of the moving web material in the first span,
 - c) determining a second web-tension-analog value of the moving web material in a second span,
 - d) determining a second web-velocity-analog value of the moving web material in the second span, and
 - e) determining the modulus-of-elasticity-analog value of the moving web material according to the first web-tension-analog value, the second web-tension-analog value, the first web-velocity-analog value, and the second web-velocity-analog value.
2. (Original) The method according to claim 1 wherein the first web-tension-analog value and the first web-velocity-analog value are determined at a first location.
3. (Original) The method according to claim 1 further comprising a step of determining a flow-rate-analog value of the moving web material according to the modulus-of-elasticity-analog value and either the first web-tension-analog value and the first web-velocity-analog value, or the second web-tension-analog value and the second web-velocity-analog value.
4. (Original) The method according to claim 3 further comprising steps of:
 - a) determining an unwinding web velocity-analog value of the moving web material, and
 - b) determining a wound-in-tension-analog value of the moving web material according to the flow-rate-analog value, the modulus-of-elasticity-analog value and the unwinding web velocity-analog value.
5. (Original) The method according to claim 3 comprising a step of determining a flow-rate-analog value whenever there is a change in any value selected from either the group consisting of: the first web-tension-analog value, the first web-velocity-analog value and combinations thereof, or the group consisting of: the second web-tension-analog value, the second web-velocity-analog value, and combinations thereof.
6. (Original) The method according to claim 1 wherein the first web-tension-analog value is determined for a first web portion in a first span, and the second web-tension-analog value is determined for the first web portion in a second span.
7. (Original) The method according to claim 1 further comprising a step of determining a modulus-of-elasticity-analog value whenever there is a change in any value selected from the

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group consisting of: the first web-tension-analog value, the first web-velocity-analog value, the second web-tension-analog value, the second web-velocity-analog value, and combinations thereof.

8. (Original) The method according to claim 1 wherein the modulus-of-elasticity-analog value is determined at predetermined time intervals.

9. (Original) The method according to claim 1 wherein the modulus-of-elasticity-analog value is determined after the handling of a predetermined length of moving web material.

10. (Original) The method according to claim 1 wherein the modulus-of-elasticity-analog value is determined according to a rotational position of the roll.

11. (Original) The method according to claim 1 comprising steps of:

- a) unwinding the moving web material from a roll of web material,
- b) associating at least a first web portion with a roll coordinate location,
- c) determining a modulus-of-elasticity-analog value for at least the first web portion, and
- d) associating the modulus-of-elasticity-analog value determined for the first web portion with the roll coordinate location associated with the first web portion.

12. (Original) The method according to claim 11 further comprising steps of:

- a) associating a time value with the determined modulus-of-elasticity-analog value, and
- b) storing at least the modulus-of-elasticity-analog value with the associated time value.

13. (Original) The method according to claim 11 further comprising steps of:

- a) determining a flow-rate-analog value for the first web portion, and
- b) associating the flow-rate-analog value for the first web portion with the roll coordinate location of the first web portion.

14. (Original) The method according to claim 13 further comprising steps of:

- a) determining an unwinding web velocity-analog value for the first web portion,
- b) determining a wound-in-tension-analog value for the first web portion, and
- c) associating the unwinding web velocity-analog value and the wound-in-tension-analog value with the roll coordinate location of the first web portion.

15. (Original) The method according to claim 14 further comprising a step of storing a data value with an associated registration value, the data value selected from the group consisting of: the modulus-of-elasticity-analog value, the flow-rate-analog value, the wound-in-tension-analog value, and combinations thereof.

16. (Original) The method according to claim 14 comprising at least partially filtering at least one value selected from the group consisting of: the first web-tension-analog value, the second web-tension-analog value, the first web-velocity-analog value, the second web-velocity-analog value, the modulus-of-elasticity-analog value, the flow-rate-analog value, and combinations thereof.

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17. (Original) The method according to claim 16 including high frequency filtering of at least the first web-tension-analog value measurement.

18. (Original) A method of determining a modulus-of-elasticity-analog value of a moving web material, the method comprising steps of:

- a) determining a first web-tension-analog value of the moving web material in a first span,
- b) determining a first web-velocity-analog value of the moving web material in the first span,
- c) determining a second web-tension-analog value of the moving web material in a second span,
- d) determining a second web-velocity-analog value of the moving web material in the second span,
- e) determining a flow-rate-analog value of the moving web material according to the first web-tension-analog value, the second web-tension-analog value, the first web-velocity-analog value, and the second web-velocity-analog value, and
- f) determining the modulus-of-elasticity-analog value according to the flow-rate-analog value and either the first web-tension-analog value and the first web-velocity-analog value, or the second web-tension-analog value and the second web-velocity-analog value.

19. (Original) The method according to claim 18 further comprising steps of:

- a) determining an unwinding web velocity-analog value for the moving web material, and
- b) determining a wound-in-tension-analog value for the moving web material according to the modulus-of-elasticity-analog value, the flow-rate-analog value and the unwinding web velocity-analog value.

20. (Original) A method of determining a modulus-of-elasticity-analog value of a moving web material, the method comprising steps of:

- a) determining a first web-tension-analog value of a first portion of the moving web material in a first span,
- b) determining a first web-velocity-analog value of the first portion of the moving web material in the first span,
- c) determining a second web-tension-analog value of the first portion of the moving web material in a second span,
- d) determining a second web-velocity-analog value of the first portion of the moving web material in the second span,
- e) determining the modulus-of-elasticity-analog value of the moving web material according to at least the first web-tension-analog value, the second web-tension-analog value, the first web-velocity-analog value, and the second web-velocity-analog value, and

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f) determining a flow-rate-analog value according to at least the first web-tension-analog value, the second web-tension-analog value, the first web-velocity-analog value, and the second web-velocity-analog value.